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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,631	04/11/2001	Robert K. Rowe	1023.1123101	1809
28075	7590	10/03/2005	EXAMINER	
CROMPTON, SEAGER & TUFTE, LLC 1221 NICOLLET AVENUE SUITE 800 MINNEAPOLIS, MN 55403-2420			LAVARIAS, ARNEL C	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/832,631

Applicant(s)

ROWE ET AL.

Examiner

Arnel C. Lavarias

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) 8,10,12,17,20-28,36,41,44-52 and 54-62 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 53 is/are allowed.
- 6) ☒ Claim(s) 1,2,9,11,13-16,18,19,29,30,35,37-40,42 and 43 is/are rejected.
- 7) ☒ Claim(s) 3-7 and 31-34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/18/05 has been entered.

Response to Amendment

2. The amendments to Claims 1-2, 29-30, 53 in the submission dated 7/18/05 are acknowledged and accepted.

Response to Arguments

3. The Applicants' arguments with respect to Claims 1-7, 9, 11, 13-16, 18-19, 29-35, 37-40, 42-43, 53 have been considered but are moot in view of the new ground(s) of rejection.
4. Claims 1-2, 9, 11, 13-16, 18-19, 29-30, 37-40, 42-43 are now rejected as follows.

Drawings

5. The drawings were received on 7/26/01. These drawings are objected for the following reason(s) as set forth below.
6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

Figure 10- Reference numeral 204

Figure 13- Reference numerals 233, 234.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

7. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet *within the range of 50 to 150 words*. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape

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used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

8. The abstract of the disclosure is objected to because of the following informalities:

Abstract is too long.

Correction is required. See MPEP § 608.01(b).

9. The disclosure is objected to because of the following informalities:

Page 19, line 8- 'InGaS' should read 'InGaAs'.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 29-30, 35, 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Bates (U.S. Patent No. 3929398).

Bates discloses a spectrometer (See Figures 1-2, 10-11) for use in a spectroscopic system, the spectroscopic system including a light source (See for example col. 1, lines 4-13) for generating light and a detector for receiving light (See 16, 24 in Figures 1-2), the spectrometer comprising an optical filter (See 12 in Figures 1-2; col. 4, lines 13-31), such

as a circular variable filter (See also col. 5, lines 25-39), for receiving light from the light source, the filter having a plurality of bandpass regions, wherein light within a bandpass region is transmitted through the optical filter such that for each bandpass region there is a corresponding passband of light, the optical filter further disposed such that a plurality of passbands of light pass through the optical filter from the light source simultaneously; and an encoding unit (See 18 in Figures 1-2) for encoding selected passbands of light corresponding to bandpass regions of the optical filter, the optical encoding unit configured for selecting subsets of the passbands of light. Bates additionally discloses the optical filter substantially reflecting light when the incident light is of a wavelength outside the plurality of bandpass regions (It is noted that the interference wedge filter 12 of Bates inherently reflects any wavelengths of light that it does not transmit); the optical filter being disposed adjacent the light source (See Figures 1-2); and the encoding unit comprising a spatial light modulator (See 18 in Figures 1-2).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 37-40, 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bates in view of Holm-Kennedy et al. (U.S. Patent No. 5784507).

Bates discloses the invention as set forth above in Claim 29, except for the optical filter comprising one or more dielectric bandpass filters, such as one or more linear or nonlinear variable filters. However, Holm-Kennedy et al. discloses several embodiments of conventional interference wedge filters based on dielectric thin films for spectrometer applications (See for example Abstract), wherein the wedge filters may be linear or nonlinear (See Figures 1-5). In addition, more than one wedge filter may be utilized in series (See for example Figure 3). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the optical filter of the spectrometer of Bates comprise one or more dielectric bandpass filters, such as one or more linear or nonlinear variable filters, as taught by Holm-Kennedy et al., for the purpose of providing controlled bandwidth characteristics while minimizing or eliminating crosstalk.

14. Claims 1-2, 9, 11, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bates in view of Ozaki et al. (U.S. Patent No. 5870188).

Bates discloses a spectrometer system (See Figures 1-2, 10-11) for performing spectroscopic determination on biological media, the spectrometer system comprising a light source (See for example col. 1, lines 4-13) for generating light; a detector for receiving the non-absorbed light (See 16, 24 in Figures 1-2) and for generating an electric signal indicative of the non-absorbed light; an optical filter (See 12 in Figures 1-2; col. 4, lines 13-31), such as a circular variable filter (See also col. 5; lines 25-39), positioned to receive light from the light source, the filter having a plurality of bandpass regions, wherein light within a bandpass region is transmitted through the optical filter such that

for each bandpass region there is a corresponding passband of light; and an encoding unit (See 18 in Figures 1-2) positioned for encoding selected passbands of light corresponding to bandpass regions of the optical filter, the optical encoding unit configured for selecting subsets of the passbands of light. Bates additionally discloses the optical filter substantially reflecting light when the incident light is of a wavelength outside the plurality of bandpass regions (It is noted that the interference wedge filter 12 of Bates inherently reflects any wavelengths of light that it does not transmit); the optical filter being disposed adjacent the light source (See Figures 1-2); and the encoding unit comprising a spatial light modulator (See 18 in Figures 1-2). Bates lacks a sampler for transmitting light into the sample and for receiving the non-absorbed light from the sample and being disposed adjacent to the detector. However, Ozaki et al. teaches a conventional spectroscope system for detecting and measuring scattered light from a sample (See for example Abstract; Figures 2, 8), wherein a sampler in the form of a sample cell or cuvette is utilized to contain the sample under test (See 10 in Figure 2). It is noted that the incident and exit faces of the sample cell allows for incident light to be transmitted to the sample, as well as allow scattered light to be transmitted from the sample. Additionally, the sample is disposed adjacent to both the light source and the detector (See 2, 10, 28 in Figure 2). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the spectrometer of Bates include a sampler for transmitting light into the sample and for receiving the non-absorbed light from the sample and being disposed adjacent to the detector, as taught by Ozaki et al., for the purpose of increasing the sensitivity of the light scattering

measurement, while allowing for convenient placement and storage of samples under test.

15. Claims 13-16, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bates in view of Ozaki et al. as applied to Claim 1 above, and further in view of Holm-Kennedy et al.

Bates in view of Ozaki et al. discloses the invention as set forth above in Claim 1, except for the optical filter comprising one or more dielectric bandpass filters, such as one or more linear or nonlinear variable filters. However, Holm-Kennedy et al. discloses several embodiments of conventional interference wedge filters based on dielectric thin films for spectrometer applications (See for example Abstract), wherein the wedge filters may be linear or nonlinear (See Figures 1-5). In addition, more than one wedge filter may be utilized in series (See for example Figure 3). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the optical filter of the spectrometer of Bates in view of Ozaki et al., comprise one or more dielectric bandpass filters, such as one or more linear or nonlinear variable filters, as taught by Holm-Kennedy et al., for the purpose of providing controlled bandwidth characteristics while minimizing or eliminating crosstalk.

Allowable Subject Matter

16. Claim 53 is allowed.

17. Claims 3-7, 31-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter:

Claim 3 is allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest a spectrometer system for performing spectroscopic determination on biological media, as generally set forth in Claims 1-3, the spectrometer system including, in combination with the features recited in Claims 1-3, an optical integrating chamber wherein light reflected from the optical filter is substantially directed into the chamber and then reflected back into the optical filter. Claims 4-7 are dependent on Claim 3, and hence are allowable for at least the same reasons Claim 3 is allowable.

Claim 31 is allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest a spectrometer for use in a spectroscopic system, as generally set forth in Claims 29-31, the spectrometer including, in combination with the features recited in Claims 29-31, an optical integrating chamber wherein light reflected from the optical filter is substantially directed into the chamber and then reflected back into the optical filter. Claims 32-34 are dependent on Claim 31, and hence are allowable for at least the same reasons Claim 31 is allowable.

Claim 53 is allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest a spectrometer for use in selected application of a spectroscopic system, as generally set forth in Claim 53, the spectrometer

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including, in combination with the features recited in Claim 53, an optical filter for receiving light from the light source, the filter having a plurality of bandpass regions, wherein light within a bandpass regions is transmitted through the optical filter such that for each bandpass region there is a corresponding bandpass of light, the optical filter further disposed such that a plurality of passbands of light pass through the optical filter from the light source simultaneously, wherein the regions are sized from final regression coefficients derived from the selected application.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 9:30 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Group Art Unit 2872
9/27/05